

EPA Region 5 Records Ctr.



253908

SITE ASSESSMENT REPORT
FOR
THE DAYTON ELECTROPLATE, INC., SITE
DAYTON, MONTGOMERY COUNTY, OHIO
TDD: S05-9609-018
PAN: 6P1801SI
DOCUMENT CONTROL NUMBER: START-05-23-05019

December 19, 1996

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
EMERGENCY RESPONSE BRANCH
77 West Jackson Boulevard
Chicago, Illinois 60604

Prepared by: Karen M. Waldron Date: 12/19/96
Karen M. Waldron, START Project Manager

Reviewed and
Approved by: Anne A. Busher Date: 12-19-96
Anne A. Busher, START Assistant Program Manager



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6777 ENGLE ROAD, CLEVELAND, OHIO 44130, TEL. (216) 243-3330
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1. INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc. (E & E), Superfund Technical Assessment and Response Team (START) to assist U.S. EPA On-Scene Coordinator (OSC) Steven L. Renninger in performing a site assessment at the Dayton Electroplate, Inc., (DEP) site in Dayton, Montgomery County, Ohio. The START was requested under Technical Direction Document (TDD) S05-9609-018 to prepare and implement a health and safety plan, compile background information, conduct a site assessment, perform air monitoring and sampling, document on-site activities, and evaluate threats to human health and the environment posed by the site. Under direction of the OSC, site assessment activities were conducted on October 11, 1996.

2. SITE BACKGROUND

2.1 SITE DESCRIPTION

The DEP site is located at 1030 Valley Street, in Dayton, Montgomery County, Ohio (Figure 2-1). The geographical coordinates for the site are latitude North 39°46'43.44" and longitude West 84°09'45.72". The DEP site is located in an industrial/residential area within the northeast portion of Dayton, Ohio. The site occupies approximately three acres, and consists of two separate buildings covering approximately 60,000 square feet (Figure 2-2). Buildings 1 and 3 are actually part of the same structure. The buildings contain open manufacturing areas, four plating lines, process tanks, drum storage areas, office space, and a water treatment area. Valley Street and residences border the site on the north. State Route 4 borders the south side of the site, and Stanley Avenue lies approximately 500 feet east of the site. Commercial businesses are located immediately adjacent to the west and east borders of the site.

The two facility buildings occupy the majority of the site property, with the remaining area covered by asphalt, concrete, or grass. A locked fence presently surrounds the site, providing limited security to the facility.

2.2 SITE HISTORY

Dayton Electroplate, Inc., (DE) was formed in 1984 when the company acquired the assets of the Dayton Rust Proof Company. Dayton Rust Proof Company operated an electroplating business at the site from 1980 until 1984. From 1984 until April 1996, DE conducted electroplating operations, including nickel, chrome, zinc, and clear coating, at the Valley Street facility. According to documents submitted to the Ohio Environmental Protection Agency (OEPA), in 1985 plating lines at the facility contained a total of 43,905 gallons of zinc cyanide electroplating solutions; 10,945 gallons of nickel electroplating solutions; and 2,930 gallons of chrome electroplating solutions.

On August 8, 1991, OEPA filed a complaint against DE for violations of Ohio's hazardous waste laws which occurred at the facility during its operation. On April 16, 1993, OEPA conducted a follow-up hazardous waste inspection at the facility. OEPA

inspectors noted that the facility did not initiate a closure plan for illegal storage units including drum storage and roll-off box areas.

On February 14, 1994, OEPA, through the Ohio Attorney General's office, filed a complaint for injunctive relief and civil penalty against DE; Charles Borum, President; and Paul Borum, Vice-president; for hazardous waste violations. The complaint consisted of 11 counts addressing hazardous waste storage violations and failure to submit a closure plan.

On March 1, 1994, the facility submitted an Ohio State Emergency Response Commission (SERC) facility identification form. The facility identified the following chemicals used in daily operations: hydrofluoric acid, hydrogen chloride, nitric acid, sodium cyanide, and concentrated sulfuric acid.

On July 6, 1994, U.S. EPA Resource Conservation and Recovery Act (RCRA) Associate Division Director Norman R. Niedergang issued a Complaint, Findings of Violations, and Compliance Order (CAFO) to DE for RCRA violations. The U.S. EPA CAFO was finalized on March 17, 1995, and required DE to provide proper Land Disposal Regulations notification on all future hazardous waste shipments and required payment of a civil penalty of \$5,400.

On May 4, 1995, a Consent Order was signed between the Ohio Assistant Attorney General's (QAAG) office and DE President Borum. The Consent Order required DE to perform closure of all hazardous waste management units at the DEP facility, and provided for a civil penalty.

On September 12, 1995, DE was notified by U.S. EPA of delinquency in meeting its penalty obligations specified in the 1994 U.S. EPA CAFO. On September 25, 1995, U.S. EPA received full payment of the \$5,400 penalty amount specified in the 1994 U.S. EPA CAFO.

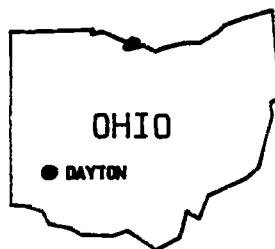
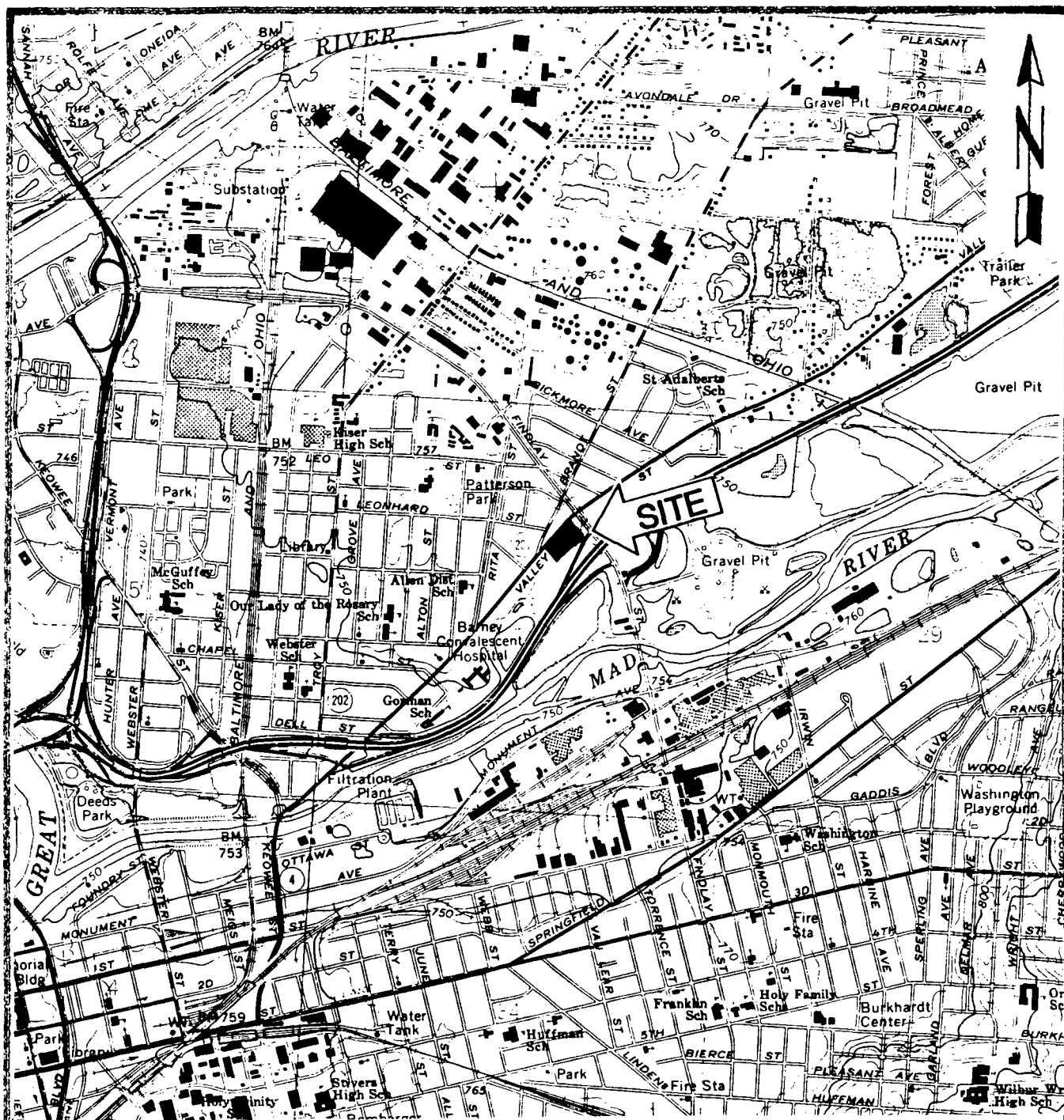
On November 15, 1995, OEPA Division of Hazardous Waste Management (DHW) representative Elizabeth Rothschild conducted an inspection of the DEP site. The purpose of the inspection was to investigate a complaint alleging storage of hazardous waste at the facility. During the inspection, OEPA noted uncharacterized drums which reportedly contained wastes from nickel plating tanks at the site. Unlabelled drums containing cyanide filter pads were also observed at the facility. The OEPA inspector also noted that in addition to the drum violations, DE had failed to comply with the terms and conditions of the May 4, 1995, Consent Order.

On February 29, 1996, a Judgement Entry was made by the QAAG's office regarding the May 4, 1995, Consent Order between the QAAG's office, DE, and DE President Borum. The Judgement Entry was required to document the lack of response to the May 4, 1995, Consent Order.

On August 27, 1996, QAAG Lori Massey notified DE and DE President Borum of violation of the May 4, 1995, Consent Order to perform closure and the February 29, 1996, Contempt Order. The QAAG's office indicated that the State of Ohio was aware at this time that DE was engaged in Chapter 7 bankruptcy proceedings.

On August 28, 1996, OEPA inspected the abandoned facility and observed acid vapors collecting near the ceiling of Plating Line 1 and a strong acidic odor permeating the buildings. OEPA also noted that the plating line was large and that process tanks appeared to be full and in poor condition.

On September 12, 1996, OEPA DHM representative Michael Savage requested assistance from U.S. EPA Region V Emergency Response Branch to conduct an emergency removal action at the abandoned DEP site due to substantial endangerment to both the local population and the environment. OEPA noted that DE had filed for Chapter 7 Bankruptcy on April 12, 1996, and soon thereafter ceased operations at the site.



Quadrangle Location

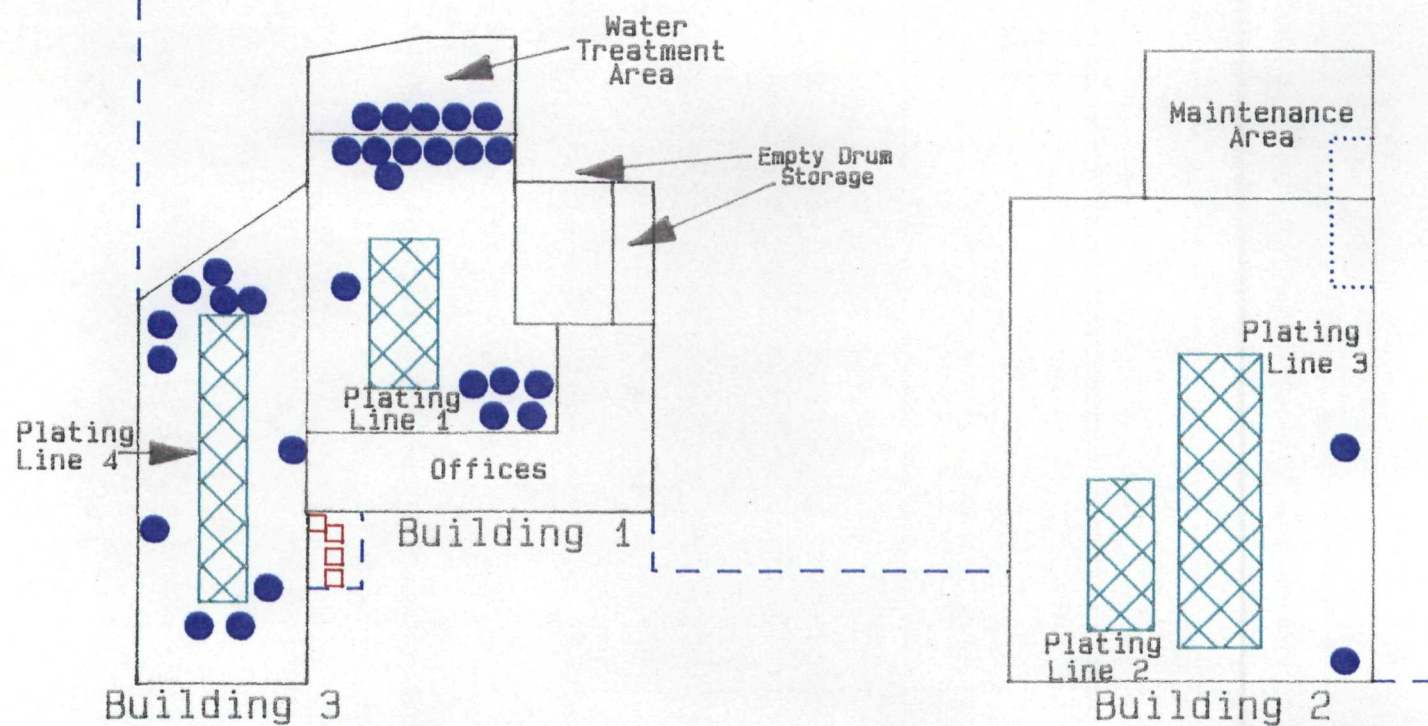


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Region V




6777 Engle Rd., Middleburg Hts., Ohio 44130

TITLE	Site Location Map	FIGURE	2-1
SITE	Dayton Electroplate, Inc. Site	SCALE	1: 24, 000
CITY	Dayton	STATE	Ohio
SOURCE	USGS MAP, 7.5 Minute Series, Dayton North, OH Quadrangle	PAN	6P1801SI
		DATE	1965
		REVISED	1981



Valley Street

LEGEND

- Fence
-  Plating Line
- Fenced Chemical Storage Area
-  Transformers
-  Storage Tanks



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6777 Engle Road, Ste. N, Middleburg Heights, OH, 44130

TITLE:	Site Features Map	FIGURE #	2-2
SITE NAME:	Dayton Electroplate, Inc.	PAN #	6P1801SI
CITY:	Dayton	STATE:	Ohio
SOURCE:	Ecology & Environment, Inc.	SCALE:	Not To Scale
		DATE:	1996
		REVISED:	1996

3. SITE ASSESSMENT

3.1 SITE RECONNAISSANCE

On September 26, 1996, START Members (STARTMs) Karen Waldron, Mark Durno, and Jeff Kimble mobilized equipment to the site area to conduct site assessment activities on the following day. STARTMs were notified in the early evening that the U.S. EPA OSC had requested that the proposed site assessment activities be postponed due to a family emergency. STARTMs returned to the Cleveland START office on September 27, 1996.

On October 10, 1996, STARTMs Waldron, Kimble, and Cedric Gibson returned to the site area to complete the previously postponed site assessment activities. The site assessment at the DEP site was conducted on October 11, 1996. Also in attendance at the site assessment were U.S. EPA OSC Remninger, and OEPA Cessation of Regulated Operations representatives Mark Boden and David Jancuk.

U.S. EPA, START, and OEPA personnel completed an on-site reconnaissance of each of the buildings at the DEP facility in level B protection. START personnel conducted air monitoring activities during the reconnaissance inspections with an HNu photoionization detector (PID), a combustible gas indicator, a hydrogen cyanide (HCN) Monitox, a Draeger pump and colorimetric monitoring tubes for hydrochloric acid, and a radiation meter. U.S. EPA and START personnel also conducted a drum and vat inventory and video and photo documentation of site conditions during the site reconnaissance inspections. OEPA personnel completed an inventory of all drums and containers of potentially useable products at the facility. Photographs of the site are included as Appendix A of this report.

3.2 SITE OBSERVATIONS

The site consists of two main structures, both of which were secured at the time of the site assessment. A fence and locked gates surround the site. Access to the facility was provided to the OSC by the bankruptcy trustee for the facility. Areas of the site not covered by the site buildings are concrete- or asphalt-covered parking areas or are grass-covered. The exteriors of both of the site buildings appeared to be structurally sound, although portions of the brick wall along the north side of Building 1 have fallen down,

creating piles of bricks which are reportedly periodically cleaned up by representatives of the bankruptcy trustee for the site.

A small area adjacent to Buildings 1 and 3 is enclosed by a separate chain-link fence. Three transformers were observed on a concrete pad in this fenced area. A fourth, smaller transformer was observed on an electrical pole, also within the fenced area. It is not known whether oils in any of the four transformers contain polychlorinated biphenyls.

Empty and partially empty drums were observed stored outside, at the south side of Building 1. Acid fumes were observed releasing from the bung opening of one of the drums, which was labelled as containing hydrochloric acid. The drum contained several inches of liquid residues. Air monitoring with the Draeger pump and colorimetric monitoring tubes for hydrochloric acid indicated the release of approximately 8 parts per million (ppm) of hydrochloric acid vapors.

Building 1: Building 1 is located near the center of the site property and is contained within the same structure as Building 3 (refer to Figure 3-1 for Building 1 Detail Map). It consists of a number of rooms, and appears to have contained the offices and support areas associated with the business during its operation.

Entry to Building 1 was obtained through a walk-in door along the west side of the building. This area consisted of several smaller rooms adjacent to a central hallway. One of these rooms was utilized for storage of empty drums. Approximately 21 empty 55-gallon drums, seven empty 30-gallon drums, and one empty 20-gallon drum were observed in this area. Empty drums in this storage area were stacked two high in some locations.

The majority of Building 1 is occupied by a single large room, which houses Plating Line 1. Plating Line 1 consists of 19 separate vats, ranging in capacity from 200 gallons to 1,200 gallons. Most of the vats in this plating line appeared to be at least half full of liquid and solid electroplating wastes. Contents of several of the vats were field-tested with pH paper, and indicated pH values ranging from 1 to 14 Standard Units (S.U.).

Five large closed, fiberglass-wrapped tanks were observed in the northwest corner of the main room in Building 1. Contents of the storage tanks are unknown, although the tanks are assumed to be full. Access to the tops of each of the storage tanks requires a ladder, which was unavailable at the time of the site assessment. Each tank has an estimated capacity of 3,500 gallons. One of the tanks was labelled as "Alkali Holding." Standing liquids, possibly rain water or leakage from plating vats or the storage tanks themselves, was observed around the base of these storage tanks and around the north end of Plating Line 1. A reading of approximately 280 ppm above background levels was obtained on the PID during the site reconnaissance of this area. An additional 550-gallon capacity closed,

fiberglass-wrapped storage tank was observed at the southeast corner of Plating Line 1. It is assumed that this tank is also full.

Seven additional smaller storage tanks, with capacities ranging from 375 to 550 gallons, were observed at the south end of the main room in Building 1. These tanks appeared to be constructed of polyethylene (poly) plastic and were open to the atmosphere. Each tank contained a power-operated mixer, and tanks appeared to be connected via piping. One of these seven storage tanks was observed to be approximately 75% full, and the remaining six tanks were observed to be approximately 25% full, of unknown liquids.

A separate room, located at the south end of Building 1, appeared to have been utilized as a water treatment area for wastewater pretreatment prior to sewer discharge. This room contained an additional five large, open-top, fiberglass-wrapped storage tanks. Each of these tanks had an estimated capacity of 3,000 gallons, and were observed to be approximately 80% full. In addition, a 20-cubic-yard roll-off box, which appeared to be full of dried electroplating sludges, was observed in the southwest corner of the water treatment area. A large vat was also located in the southeast corner of this room. The 2,150-gallon capacity vat was nearly full of an unknown liquid.

Approximately 70 full 55-gallon drums were observed in Building 1 along the west wall of the main room. Drums of unused products, stacked two drums high, were stored on pallets along the wall. The drums were staged by chemical name, based on small signs located on the wall. However, drums of acids, such as nitric (2 drums), sulfuric (8 drums), and hydrochloric (20 drums), were observed stored adjacent to drums of basic materials, such as sodium hydroxide (16 drums) and sodium hypochlorite (12 drums). A list of drums and containers inventoried by START during the site assessment, separated by building and area, is included as Appendix B.

An additional ten full 55-gallon drums of sulfuric acid (4), sodium hydroxide (4), and sodium hypochlorite (2) were observed at the southeast corner of the main room, adjacent to the water treatment area. The concrete floor in the vicinity of these drums was observed to be stained yellow in several locations. Labels from other containers observed in Building 1 indicated the presence of the following products: "Zincrolyte," "Enthobrite," and "SoakClean," as well as several unknown materials.

Building 3: Building 3 is contained within the same overall structure as Building 1. Access to Building 3 can be obtained through the main room of Building 1, or through three large overhead garage doors located in the northwest corner of the building (refer to Figure 3-2 for Building 3 Detail Map). These doors were locked at the time of the site assessment.

Building 3 contains Plating Line 4, miscellaneous drums and storage tanks, and an overhead drying rack mechanism.

Plating Line 4 consists of 23 separate vats, ranging in capacity from 1,250 gallons to 19,000 gallons. Most of the vats were observed to be full or nearly full of liquids and sludges. However, a group of five of these vats, located at the southeast end of the plating line, were empty. The contents of a number of the vats were tested with pH paper and indicated pH values ranging from 1 to 14 S.U. The contents of the largest of the vats in Plating Line 4 was field-tested with an EM Quant cyanide test kit and was found to contain high levels of cyanide. This vat was located within 10 to 15 feet of vats containing low pH materials.

A total of 11 storage tanks were observed in Building 3. Tank capacities ranged from 1,000 to 10,000 gallons. All of the storage tanks were closed to the atmosphere and the interiors were unable to be accessed. Therefore, the tanks were all estimated to be 75% full. The contents of the tanks are unknown, but are assumed to be liquids. Eight 55-gallon drums and nine 5-gallon containers of unknown contents, were also observed in Building 3.

Building 2: Building 2 contains Plating Lines 2 and 3 (refer to Figure 3-3 for Building 2 Detail Map). Plating Line 2 consists of 16 separate vats, ranging in size from approximately 1,000 to 5,000 gallons in capacity. All of the vats in Plating Line 2 were empty at the time of the site assessment.

Plating Line 3 contains 25 separate vats, ranging in capacity from 1,000 to 10,000 gallons. Approximately half of the vats in this plating line were empty at the time of the site assessment. The remaining vats were approximately 75% full of liquids and sludges. The large, horseshoe-shaped plating vat was empty of electroplating materials at the time of the site assessment, but contained several large portable kerosene heaters. Ten full 55-gallon drums labelled as containing kerosene were observed adjacent to the west side of this vat.

A large steel storage tank was observed in the northwest corner of Building 2. The tank has an estimated capacity of 10,000 gallons, but was observed to be empty at the time of the site assessment. A second storage tank, with an estimated capacity of 5,000 gallons, was observed along the west side of Building 2. The contents of this tank are unknown, although it is assumed to be half full.

A generator room is located along the west wall of Building 2, between the two storage tanks. One 30-gallon and two 20-gallon drums of sodium cyanide and one 30-gallon and two 20-gallon drums of zinc cyanide were observed in this room.

A group of 33 55-gallon drums were observed along the west wall of Building 2, between the generator room and the 10,000-gallon storage tank. The drums were labelled with "Amphoteric 2150RR." Additional label information indicated these materials were cleaning compounds which contained hydrofluoric acid. The contents of one of these drums was field-tested with pH paper and indicated a pH of 1 S.U. Drums in this area were stored on the floor and on an overhead storage area against the wall. A complete inventory of this area was not possible due to the lack of a ladder required to access the overhead storage shelf. These drums are located within 10 to 15 feet of the drums of sodium and zinc cyanides.

A bathroom area is located in the northeast corner of Building 2. Several 55-gallon drums of unknown contents were observed in this room. In addition, a red liquid, which may have originated from one of the drums, was observed in one of the toilets in the bathroom.

The south end of Building 2 contains a separate room dedicated to the maintenance department of the facility. This room was filled with spare parts and equipment. Pressurized cylinders of acetylene, oxygen, and argon gas, on a portable welding cart, were observed in this area. In addition, several drums and containers of lubricants were also observed scattered throughout the maintenance area.

A fenced storage area is located in the southwest corner of the main room of Building 2 and the northwest corner of the maintenance area. The portion of the locked, fenced area which lies in the maintenance area contained miscellaneous tools and spare parts. The portion which lies in the main room of Building 2 contained a number of drums and small containers of chemicals such as chromic acid, phosphoric acid, and isopropanol. Drums and containers were stacked on top of each other and on shelves within this area.

3.3 SAMPLING ACTIVITIES

After completion of the site reconnaissance in each building area, START and the U.S. EPA OSC discussed their observations, as well as the proposed sampling scheme. The START was requested to collect samples from six drums and six vats on site.

Drum and vat sampling was conducted by START in level B protection, with continuous monitoring of the breathing zone with the PID and HCN Monitox. Drum and vat samples were collected with dedicated 1/2-inch diameter glass drum thieves, poured directly out of the drum or container, or collected with dedicated plastic scoops. Sample aliquots were placed into 16-ounce glass bottles, which were subsequently sealed and labelled. Outer sampling gloves were changed between sampling points. No readings above background levels were detected on the PID or HCN Monitox during drum and vat sampling activities.

Drum sample D1 was a clear, colorless liquid collected from a full 55-gallon poly drum labelled as containing sulfuric acid, "66 Baume." Drum sample D2 was also a clear, colorless liquid. It was collected from a full 55-gallon poly drum labelled as containing hydrochloric acid. Sample D3 was a clear, colorless liquid collected from a full 55-gallon poly drum labelled as containing 50% sodium hydroxide. Drum sample D4 was a clear, light yellow liquid obtained from a full 55-gallon poly drum labelled as containing sodium hypochlorite. All four of these drums were located in a storage area along the west wall of Plating Line 1 in Building 1 (refer to Figure 3-4 for Building 1 Sample Locations).

Vat samples V5, V6, and V7 were collected from vats in Plating Line 1 in Building 1. Sample V5 was a clear, yellow liquid which indicated a pH of 14 S.U. when tested with pH paper. Vat sample V6 was a clear, light green liquid which indicated a pH of 1 S.U. when tested with pH paper. Vat sample V7 was a green and brown crystalline solid.

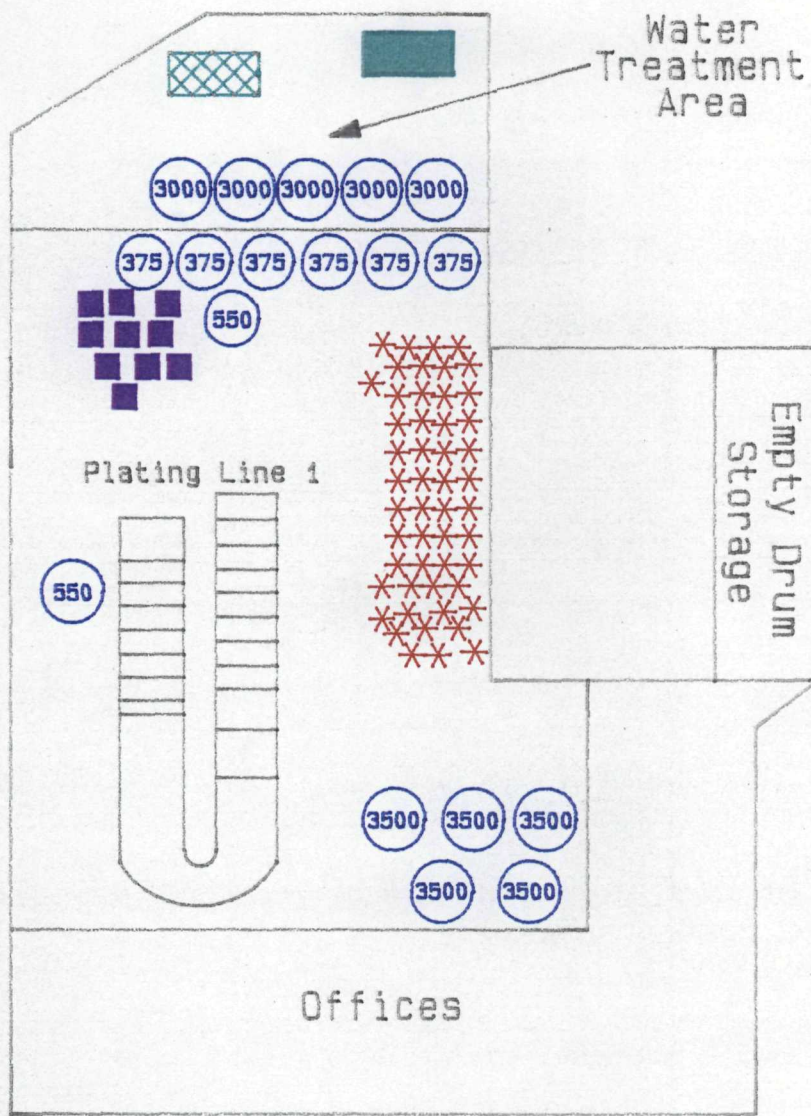
Vat samples V8 and V9 were collected from plating vats from Plating Line 4 in Building 3 (refer to Figure 3-5 for Building 3 Sample Locations). Sample V8 was a clear, light yellow liquid which tested positive for cyanide content when field-tested with an EM Quant cyanide test kit. Vat sample V9 was a clear, light green liquid which indicated a pH of 1 S.U. when tested with pH paper.

The remaining three samples were collected from Building 2 (refer to Figure 3-6 for Building 2 Sample Locations). Sample D10 was a clear, colorless liquid obtained from a 1-gallon metal container labelled as containing isopropanol. This container was located in the fenced storage area along the west wall of Building 2. Drum sample D11 was a white, briquette-shaped solid obtained from a full 30-gallon metal drum labelled as containing sodium cyanide. Vat sample V12 was a clear, green liquid which indicated a pH of 1 S.U. when tested with pH paper.

Upon completion of the sampling actions, samples were decontaminated, labelled, and packaged according to standard E & E protocols. START personnel conducted dry decontamination activities and all potentially contaminated personal protective clothing was bagged and left inside Building 1, as directed by the OSC. U.S. EPA, OEPA, and START personnel departed the site at 1430 hours.

On October 15, 1996, at 0847 hours, STARTM Durno relinquished the 12 samples to Andrea Thayer of BEC Laboratories, Inc. (BEC), in Toledo, Ohio. The chain-of-custody form was completed at this time. Analysis of eight samples for pH, Method 9040; two samples for total and reactive cyanide, Methods 9010 and Solid Waste 846 7.3.3.2, respectively; one sample for total chromium, nickel, and zinc, Method 6010/7000; one sample for flash point,

Method 1020; two samples for chloride, Method 9252; and one sample for sulfate, Method 9038; with a 14-day verbal turnaround time was requested under TDD S05-9610-805.



LEGEND



Storage Tank
Capacity in Gallons



55-Gallon Drums



55-Gallon Drums
Unused Product



Liquid-Filled Vat



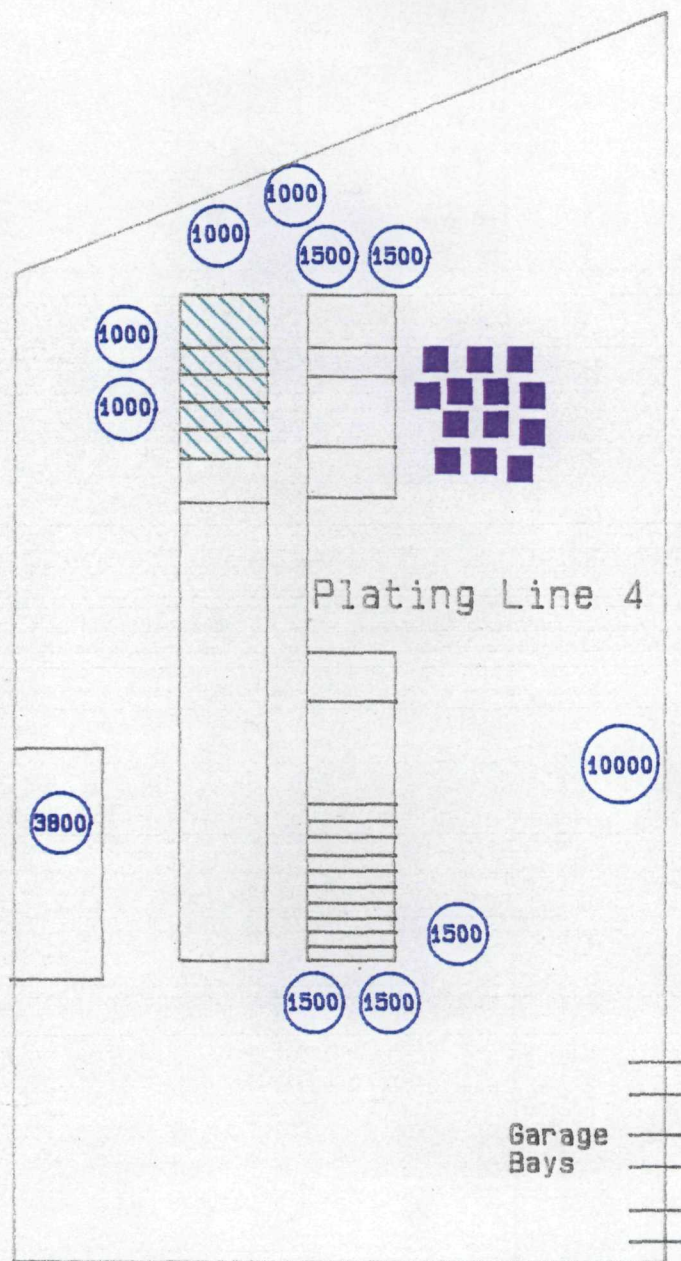
Sludge-Filled
Rolloff Box



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TITLE	Building 1 Detail Map	FIGURE	3-1
SITE	Dayton Electroplate, Inc.	SCALE	Not To Scale
CITY	Dayton	STATE	Ohio
SOURCE	Ecology and Environment Inc.	PAN	6P1801SI
		DATE	1996
		REVISED	



Building 3

LEGEND



Storage Tank
Capacity in Gallons



55-Gallon Drums
and Containers



Empty Vats



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TITLE

Building 3 Detail Map

FIGURE

3-2

SITE

Dayton Electroplate, Inc.

SCALE

Not To Scale

CITY

Dayton

STATE

Ohio

PAN

6P1801SI

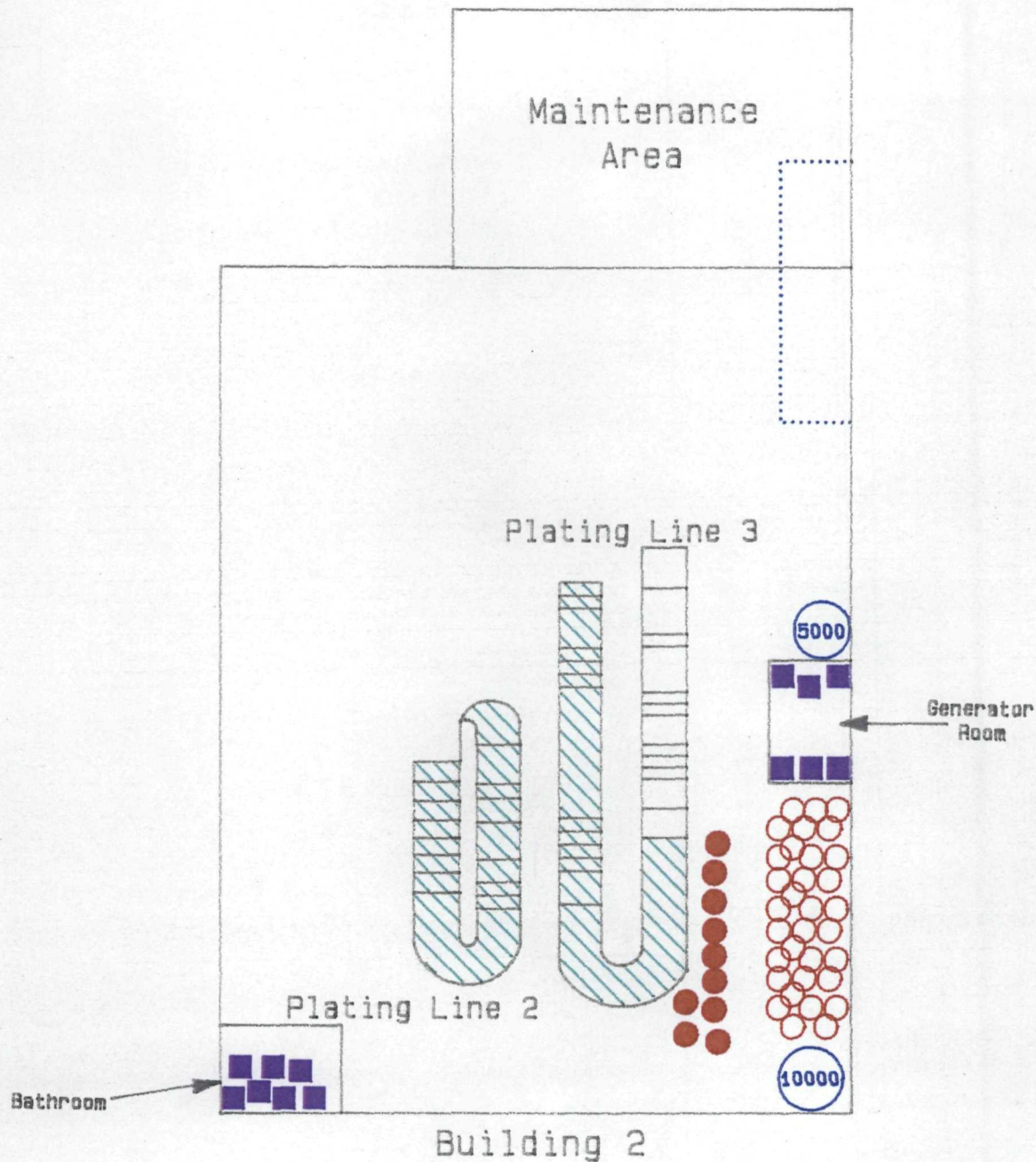
SOURCE

Ecology and Environment Inc.







DATE

1996

REVISED



LEGEND

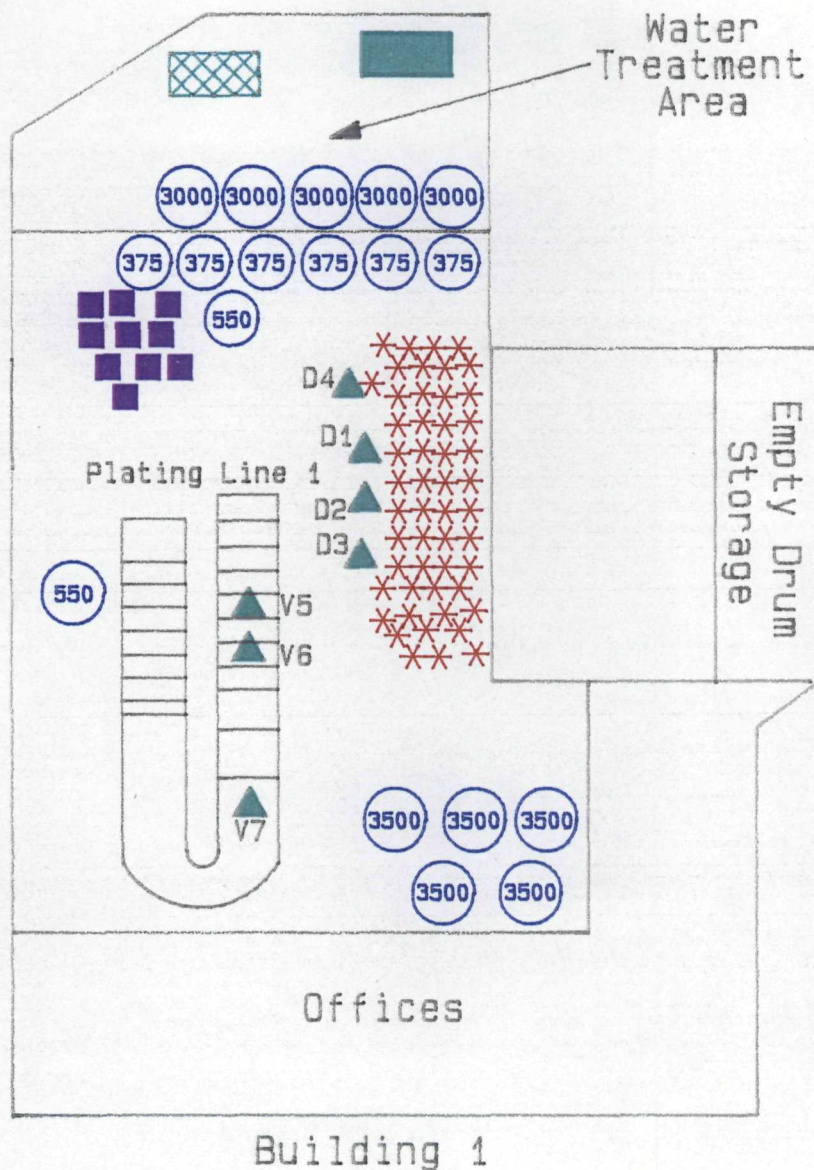
-  Storage Tank Capacity in Gallons
-  Fenced Chemical Storage Area
-  Kerosene 55-Gallon Drums
-  Hydrofluoric Acid 55-Gallon Drums
-  Miscellaneous Drums
-  Empty Vats



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TITLE	Building 2 Detail Map	FIGURE	3-3
SITE	Dayton Electroplate, Inc.	SCALE	Not To Scale
CITY	Dayton	STATE	Ohio
SOURCE	Ecology and Environment Inc.	PAN	6P1801SI
		DATE	1996
		REVISED	



LEGEND



Storage Tank
Capacity in Gallons



Drum or Vat
Sample Location



55-Gallon Drums



55-Gallon Drums
Unused Product



Liquid-Filled Vat



Sludge-Filled
Rolloff Box



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TITLE

Building 1 Sample Location Map

FIGURE

3-4

SITE

Dayton Electroplate, Inc.

SCALE

Not To Scale

CITY

Dayton

STATE

Ohio

PAN

6P1801SI

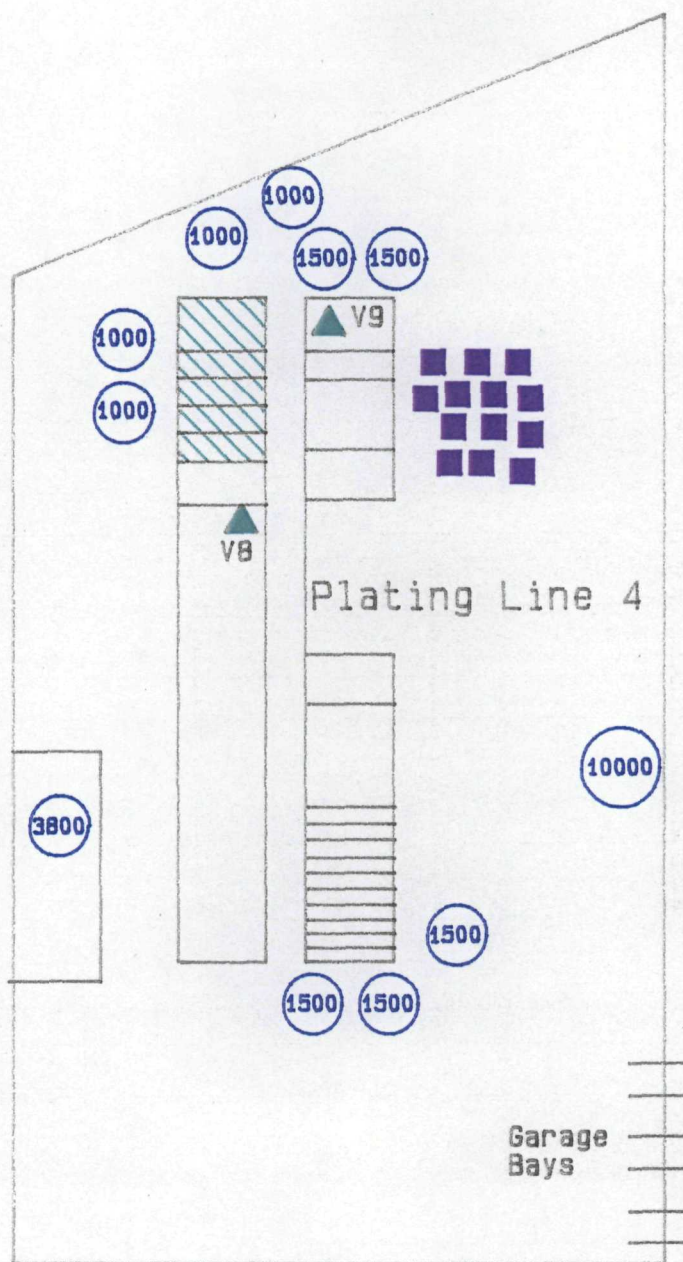
SOURCE

Ecology and Environment Inc.

DATE





1996

REVISED



Building 3

LEGEND

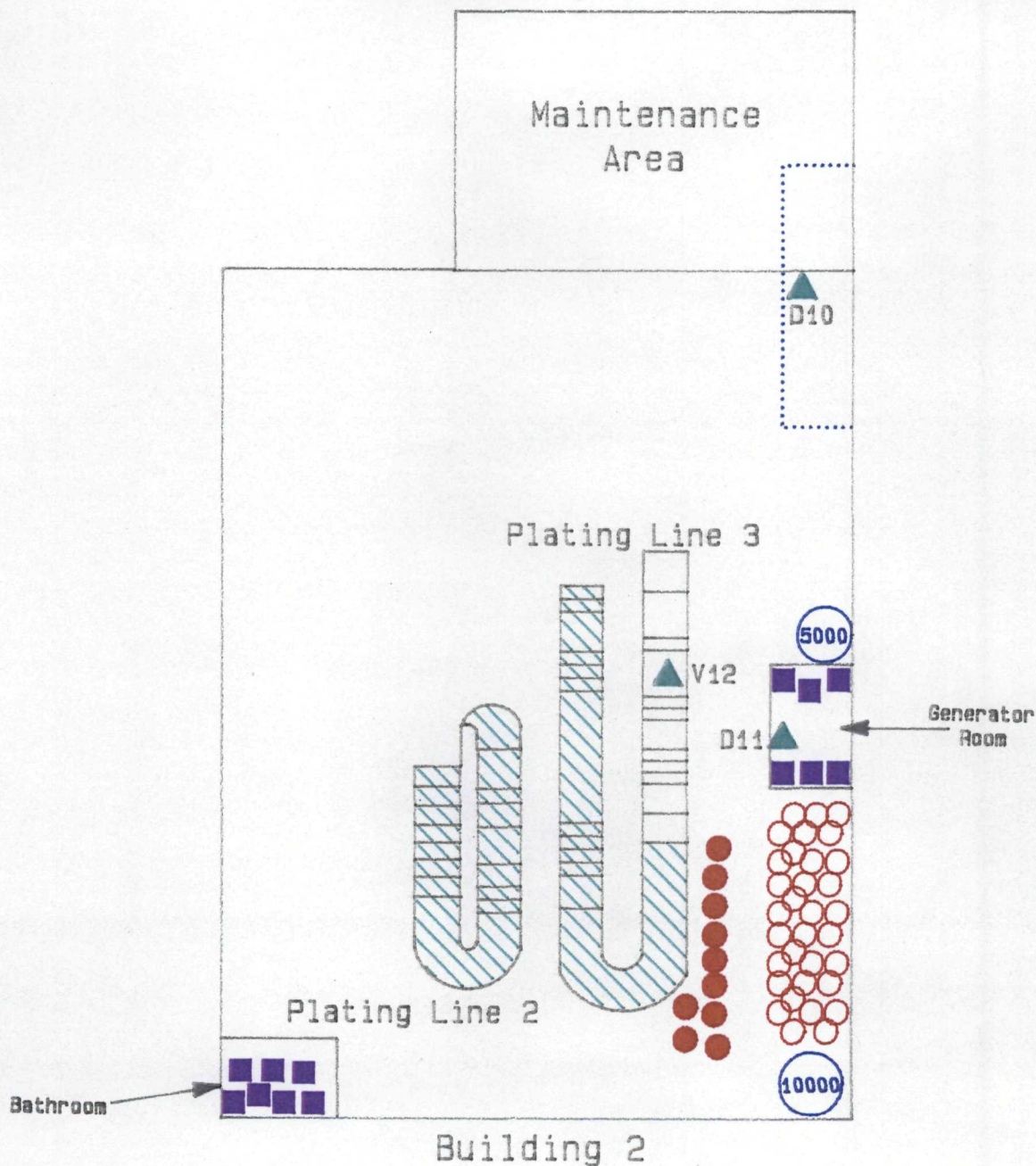
-  Storage Tank Capacity in Gallons
-  55-Gallon Drums and Containers
-  Empty Vats
-  Vat Sample Location



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TITLE	Building 3 Sample Location Map	FIGURE	3-5
SITE	Dayton Electroplate, Inc.	SCALE	Not To Scale
CITY	Dayton	STATE	Ohio
SOURCE	Ecology and Environment Inc.	PAN	6P1801SI
		DATE	1996
		REVISED	



LEGEND

5000

Storage Tank
Capacity in Gallons
Fenced Chemical
Storage Area



Kerosene 55-Gallon
Drums



Hydrofluoric Acid
55-Gallon Drums



Sample Location



Miscellaneous Drums



Empty Vats



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TITLE Building 2 Sample Location Map

FIGURE 3-6

SITE Dayton Electroplate, Inc.

SCALE Not To Scale

CITY Dayton STATE Ohio

PAN 6P1801SI

SOURCE Ecology and Environment Inc.

DATE 1996

REVISED

4. ANALYTICAL RESULTS

Analytical results from analyses conducted by BEC revealed the presence of high and low pH materials, low flash point materials, elevated zinc concentrations, and high concentrations of total and reactive cyanides. Summaries of the analytical results from BEC are included as Tables 4-1 and 4-2, and the analytical data review memorandums for these results are included as Appendix C.

Samples D1, D2, V6, V9, and V12 were analyzed for pH. All five samples revealed pH values below 1 S.U. Samples D3, D4, and V5 were also analyzed for pH and revealed pH values of greater than 13 S.U., 11.67 S.U., and 12.67 S.U., respectively. Sample D1 was also analyzed for total sulfate and indicated a sulfate concentration of 820,000 milligrams per liter (mg/L). Samples D2 and D4 were also analyzed for total chloride, and indicated chloride concentrations of 380,000 mg/L and 170,000 mg/L, respectively.

Sample V7 was analyzed for total chromium, nickel, and zinc concentrations. Analytical results for this sample revealed a total chromium concentration of 49 milligrams per kilogram (mg/kg); a total nickel concentration of 43 mg/kg; and a total zinc concentration of 10,000 mg/kg. Sample D10 was analyzed for flash point and revealed a flash point of less than 74 degrees Fahrenheit (°F).

Samples V8 and D11 were analyzed for total and reactive cyanide. Total cyanide concentrations were 6,500 mg/L and 53,000 mg/kg for samples V8 and D11, respectively. Reactive cyanide concentrations for samples V8 and D11 were less than 0.1 mg/L and 470 mg/kg, respectively.

<p>Table 4-1</p> <p>SUMMARY OF DRUM AND CONTAINER ANALYTICAL RESULTS</p> <p>DAYTON ELECTROPLATE, INC.</p> <p>DAYTON, OHIO</p> <p>OCTOBER 11, 1996</p>								
Sample Number	Matrix	Label	Parameter					
			pH	Sulfate	Chloride	Total Cyanide	Reactive Cyanide	Flash Point
D1	Liquid	Sulfuric Acid	<1	820,000	*	*	*	*
D2	Liquid	Hydrochloric Acid	<1	*	380,000	*	*	*
D3	Liquid	Sodium Hydroxide	>13	*	*	*	*	*
D4	Liquid	Sodium Hypochlorite	11.67	*	170,000	*	*	*
D10	Liquid	Isopropanol	*	*	*	*	*	<74
D11	Solid	Sodium Cyanide	*	*	*	53,000	470	*

Key:

< = Less than.

> = Greater than.

* = Not Analyzed.

pH reported in Standard Units (S.U.).

Sulfate and chloride reported in milligrams per liter (mg/L).

Total and reactive cyanide reported in milligrams per kilogram (mg/kg).

Flash point reported in degrees Fahrenheit (°F).

Source: BEC Laboratories, Inc., Toledo, Ohio, TDD S05-9610-805.

Table 4-2

SUMMARY OF VAT ANALYTICAL RESULTS
DAYTON ELECTROPLATE, INC.
DAYTON, OHIO
OCTOBER 11, 1996

Sample Number	Matrix	Parameter						
		pH	Total Chromium	Total Nickel	Total Zinc	Total Cyanide	Reactive Cyanide	Flash Point
V5	Liquid	12.67	*	*	*	*	*	*
V6	Liquid	<1	*	*	*	*	*	*
V7	Solid	*	49	43	10,000	*	*	*
V8	Liquid	*	*	*	*	6,500	<0.1	*
V9	Liquid	<1	*	*	*	*	*	*
V12	Liquid	<1	*	*	*	*	*	*

Key:

< = Less than.

* = Not Analyzed.

pH reported in Standard Units (S.U.).

Total chromium, nickel, and zinc reported in milligrams per kilogram (mg/kg).

Total and reactive cyanide reported in milligrams per liter (mg/L).

Source: BEC Laboratories, Inc., Toledo, Ohio, TDD S05-9610-805.

5. DISCUSSION OF POTENTIAL THREATS

Paragraph (b) (2) of Part 300.415 of the National Contingency Plan (NCP) lists factors to be considered when determining the appropriateness of a potential removal action at a site. The following discussion presents a summary of those factors which are applicable to the DEP site.

- o Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances or pollutants or contaminants. Low pH (less than 1 S.U.) and high pH (greater than 12.5 S.U.) materials were documented as present at the DEP site. As defined in 40 Code of Federal Regulations (CFR) 261.22, these materials are considered to be hazardous based on the RCRA characteristic of corrosivity, which states: "A solid waste exhibits the characteristic of corrosivity if a representative sample...is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5 as determined by a pH meter..." Drum and vat samples collected at the DEP site revealed analytical results which indicated the presence of both high pH (greater than 13 S.U.) and low pH (less than 1 S.U.) materials.

Based on drum labels and analytical results, drums at the site are documented to contain hydrofluoric, sulfuric, and hydrochloric acids as well as high pH cleaning solutions, sodium hydroxide, and sodium hypochlorite. Hydrofluoric acid is known as the strongest acid due to its ability to etch and corrode glass. Due to this characteristic, this material cannot be sampled and laboratory analyzed for pH. However, common chemistry books list the pH of hydrofluoric acid as less than 1 S.U.

Plating wastes contained in vats at the DEP site are also considered to be hazardous, as defined in 40 CFR 261.31, which defines F007 and F008 listed wastes as plating bath residues and spent plating bath solutions from plating operations utilizing cyanides. In addition, analytical results from START-collected samples revealed the presence of reactive cyanide at a concentration of 470 mg/L. As a result, this waste is considered to be hazardous based on the RCRA characteristic of reactivity, as defined in 40 CFR 261.23.

Samples collected at the DEP site revealed the presence of cyanides and low pH materials in close proximity. If these incompatible materials were mixed inadvertently or intentionally, toxic hydrogen cyanide gas could be created and released to the surrounding populations. Private residences are located directly across Valley Street from the site.

- o Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release. Drums and containers of corrosive and cyanide-bearing wastes were observed throughout the DEP facility. Bulk storage tanks and plating vats in Building 1 were observed to be surrounded by

standing water indicating potential tank or roof leakage. Plating vats range in volume from 200 to 19,000 gallons, and many of these vats are already at or near capacity. Additional roof leakage as the site buildings deteriorate could cause these plating solutions to be released, and could result in the inadvertent mixing of incompatible wastes.

OEPA inspectors also observed acid fumes collecting near the roof in Building 1 during their August 28, 1996, inspection of the facility. Analytical results from the contents of plating vats in the DEP facility have indicated the presence of high and low pH materials. Open vats and storage tanks are present in Building 1, and throughout the facility, and may release hazardous vapors into the air. If the integrity of the roof is compromised in any way, these hazardous vapors may be released into the surrounding environment.

- o **Threat of fire or explosion.** Laboratory analysis of drum samples collected at the DEP site revealed the presence of materials with flash points below 140°F. As a result, these materials are considered to be hazardous based on the RCRA characteristic of ignitability, as defined in 40 CFR 261.21. Drum sample D10 had a flashpoint of less than 74°F. The presence of these materials could result in a fire or explosion if high temperatures are recorded in the buildings during the summer months, or if vandals enter the facility and inadvertently cause a spark.

APPENDIX A
SITE PHOTOGRAPHS



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 1
 DIRECTION: East DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of facility entrance off Valley Street.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 2
 DIRECTION: Southeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of the office and parking areas along the
 north side of the property, off Valley Street.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 3
 DIRECTION: East DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Building 3 garage bays and parking areas at the north end of the site, along Valley Street.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 4
 DIRECTION: Southeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Exterior of Building 1.



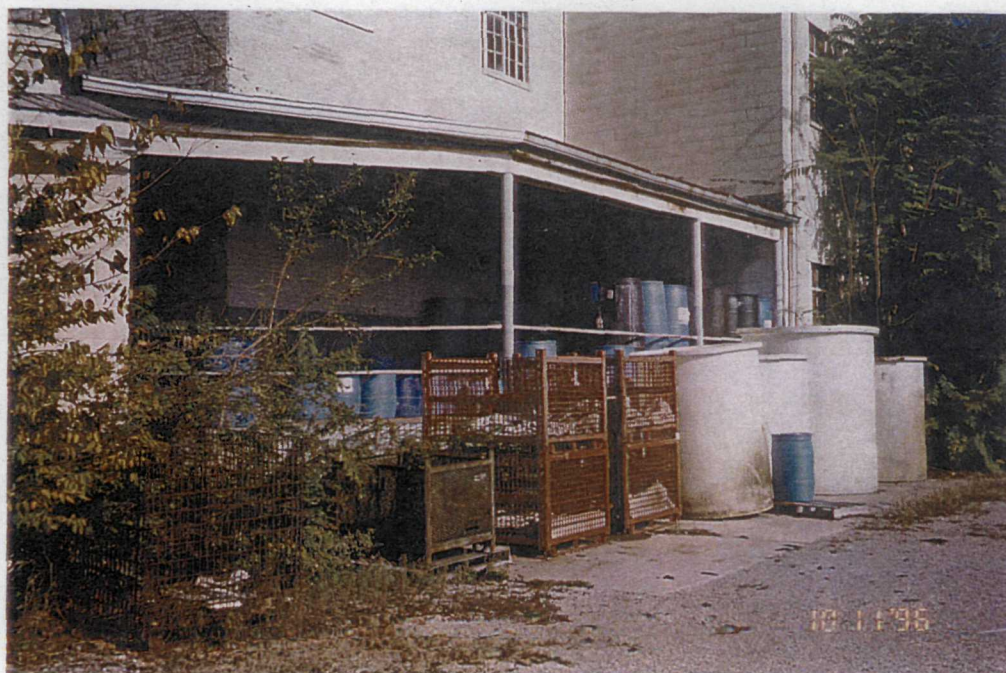
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 5
 DIRECTION: Northeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of the south end of the site, including portions of Building 2 on the left and Building 1 in the background.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 6
 DIRECTION: North DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of the south end of Building 2 and toward the residences located across Valley Street from the site.



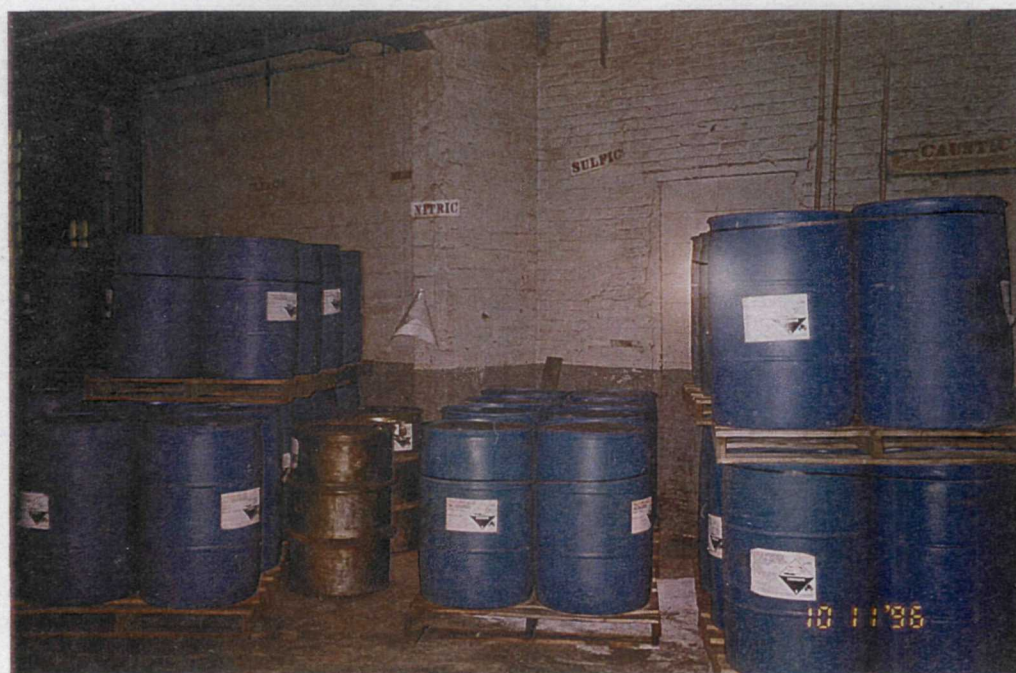
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 7
 DIRECTION: East DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Transformers located in fenced area adjacent to
 Buildings 1 and 3.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 8
 DIRECTION: Northeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Empty drum storage area located outside at the south
 end of Building 1.



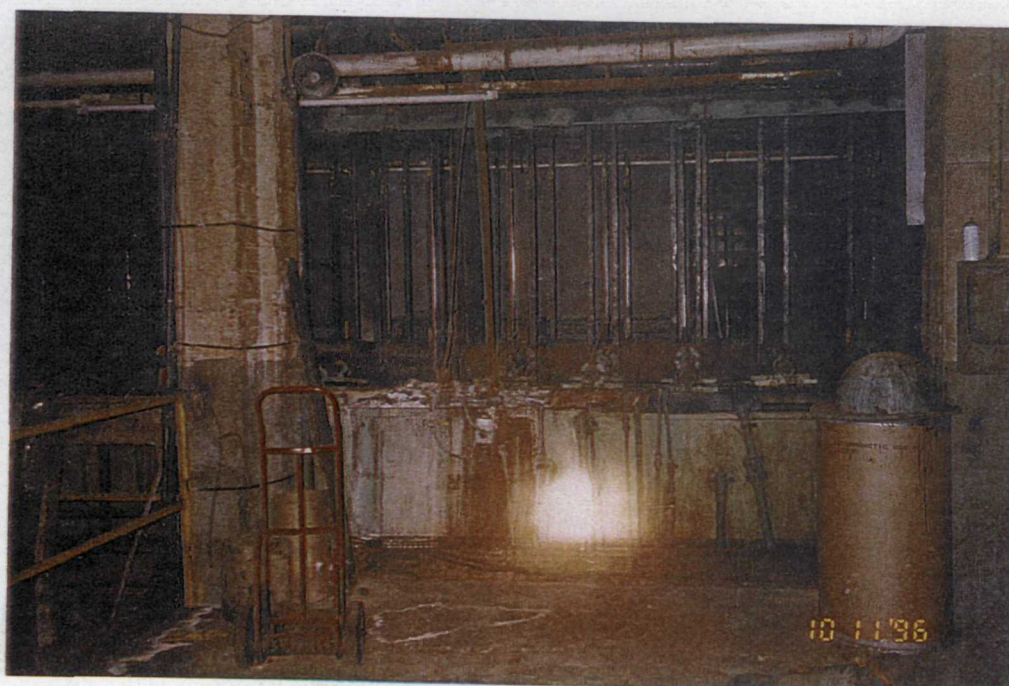
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 9
 DIRECTION: South DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Close-up of several empty drums stored outside at the facility.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 10
 DIRECTION: West DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Drums of raw materials stored in Building 1. Storage area labelled with chemical names; acids and bases stored adjacent to each other.



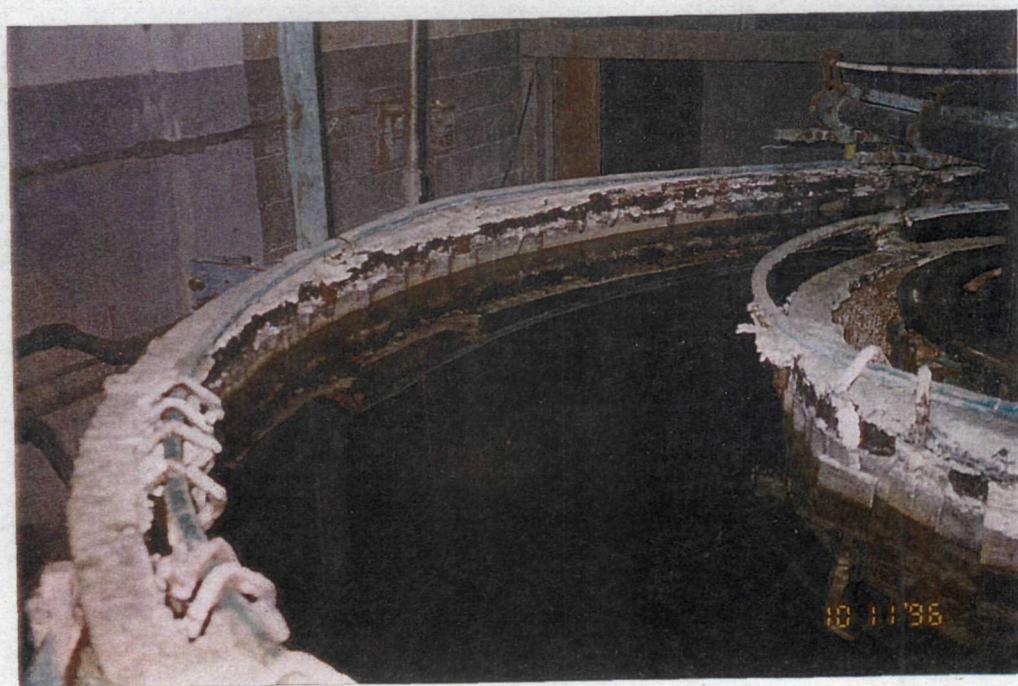
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 11
 DIRECTION: North DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: One of several large storage tanks located in Building 1. Tank labelled "Alkali Holding."



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 12
 DIRECTION: East DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of the west side of the plating line in Building 1.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 13
 DIRECTION: Northeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of the vats in the plating line in Building 1.



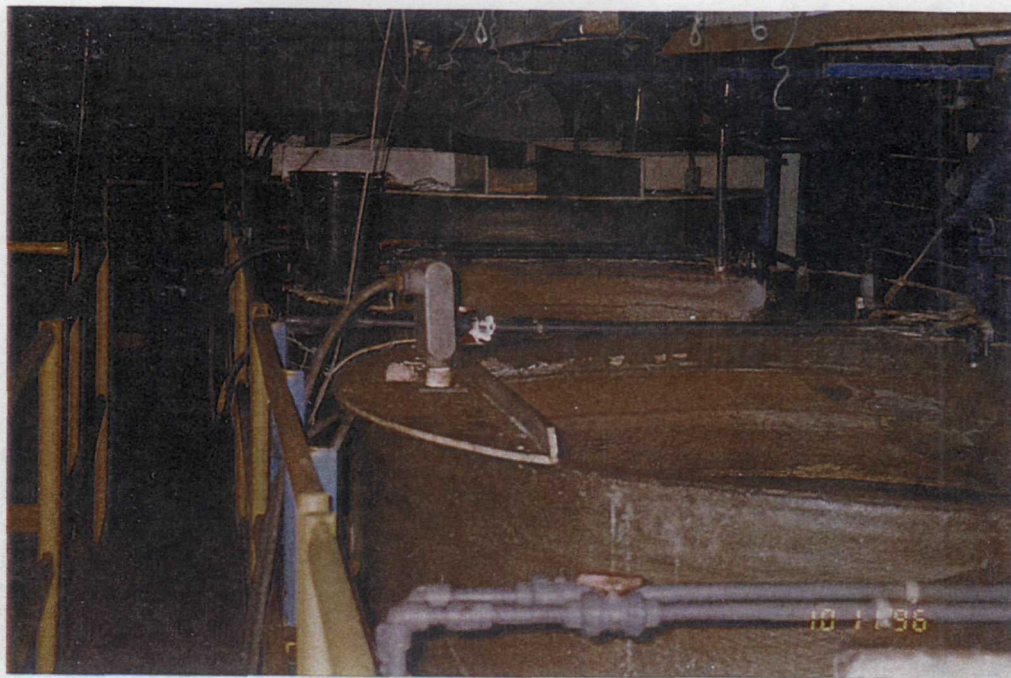
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 14
 DIRECTION: Northeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Contents of the horseshoe-shaped plating vat in Building 1.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 15
 DIRECTION: North DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of the east side of the plating line in Building 1.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 16
 DIRECTION: South DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Water treatment tanks located at the south end of Building 1.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 17
 DIRECTION: Southeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Close-up view of several of the water treatment tanks located at the south end of Building 1.



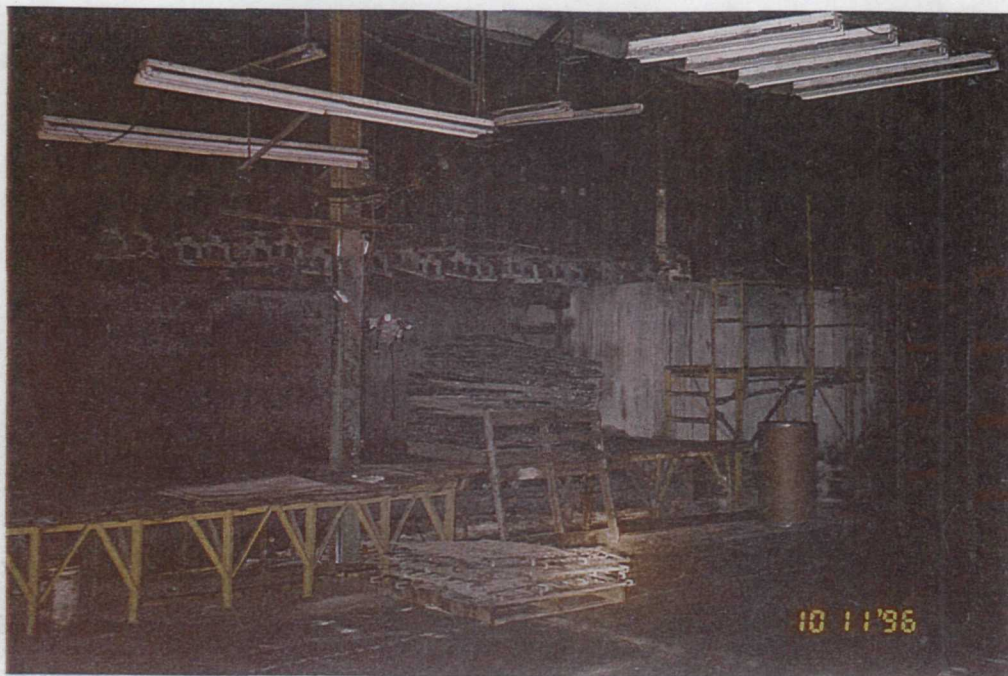
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 18
 DIRECTION: East DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Drums and containers found near the water treatment area at the south end of Building 1.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 19
DIRECTION: West DATE: 10/11/96 PHOTOGRAPHER: Renninger
DESCRIPTION: Yellow staining observed on the floor in Building 1.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 20
DIRECTION: Northeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
DESCRIPTION: Overview of storage tanks and the plating line in Building 3.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 21
 DIRECTION: Southeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of the plating line in Building 3.



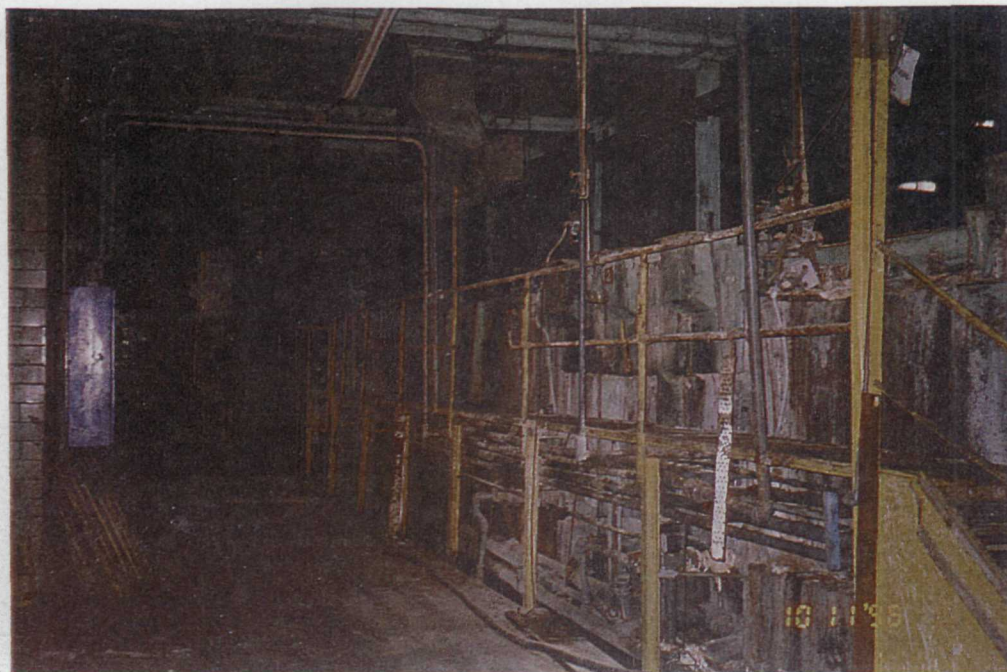
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 22
 DIRECTION: Northeast DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of the vats in the plating line in Building 3.



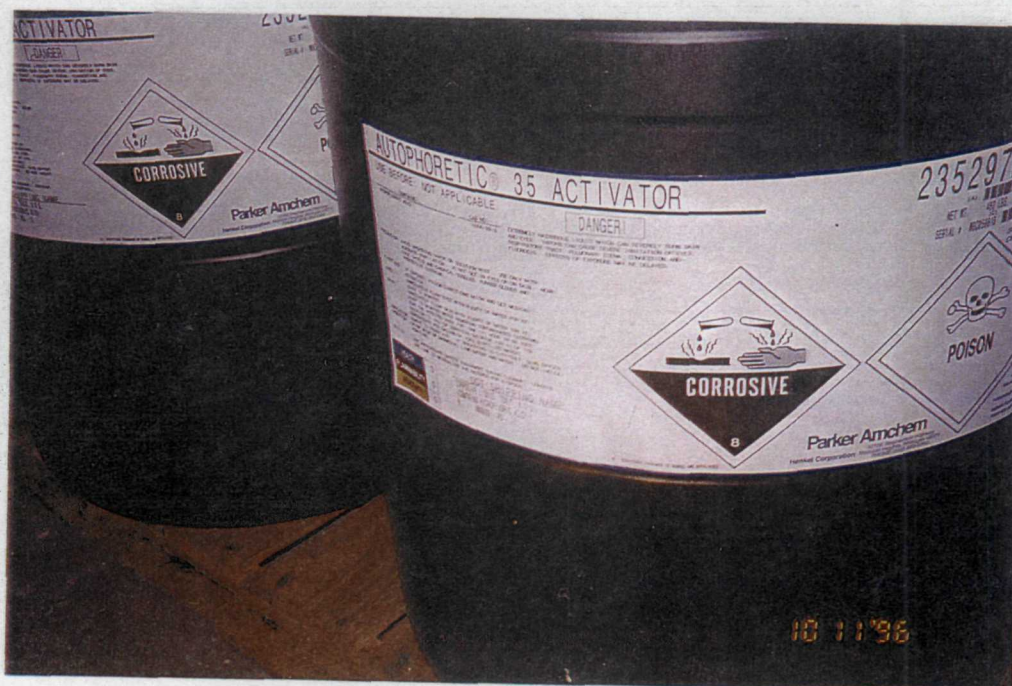
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 23
 DIRECTION: East DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Close-up view of one of the vats in Building 3 and its contents.



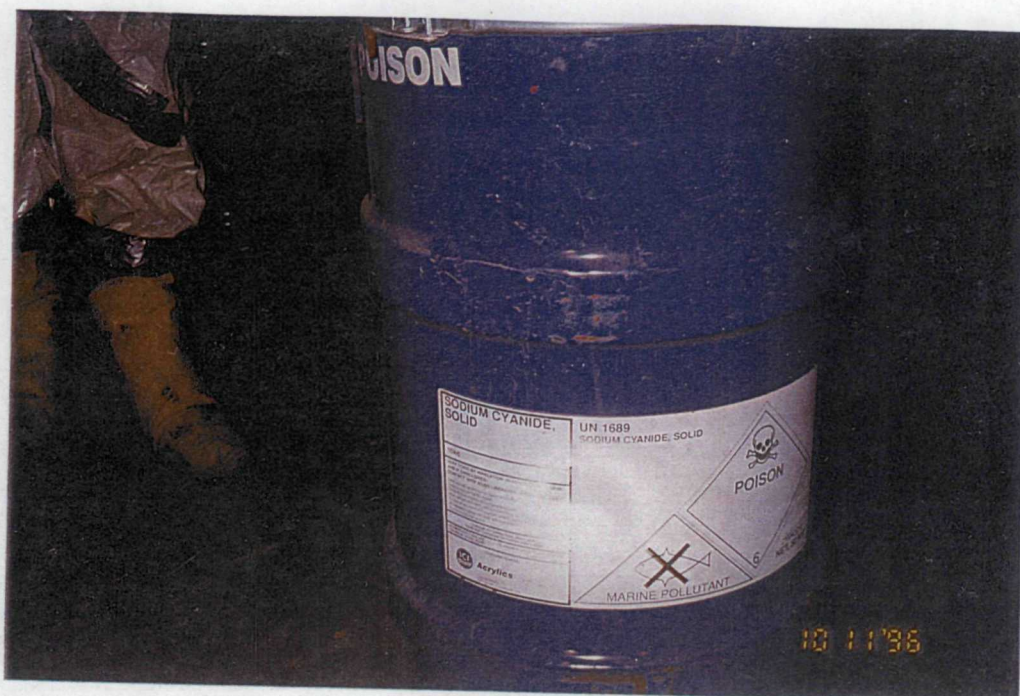
SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 24
 DIRECTION: West DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Overview of Building 2 from the east entrance to the building.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 25
 DIRECTION: Northwest DATE: 10/11/96 PHOTOGRAPHER: Renninger,
 DESCRIPTION: Overview of the plating vats in Building 2.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 26
 DIRECTION: West DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Close-up view of label from drum containing
 hydrofluoric acid. Drum located along the west wall of Building 2.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 27
 DIRECTION: West DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Close-up view of label from drum containing sodium cyanide. Drum located along the west wall of Building 2.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 28
 DIRECTION: West DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Close-up view of label from drum containing zinc cyanide. Drum located in Building 2.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 29
 DIRECTION: Southwest DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Small containers of various chemicals found in a storage area in Building 2.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 30
 DIRECTION: South DATE: 10/11/96 PHOTOGRAPHER: Renninger
 DESCRIPTION: Close-up of labels on small containers of various chemicals found in a storage area in Building 2.



SITE: Dayton Electro.TDD: S05-9609-018 PAN: 6P1801SA PHOTO: 31
DIRECTION: East DATE: 10/11/96 PHOTOGRAPHER: Renninger
DESCRIPTION: Close-up view of label from small container of chromic
acid found in a storage area in Building 2.

APPENDIX B

START DRUM AND CONTAINER INVENTORY

Chemical Inventory October 11, 1996
Dayton Electroplate, Inc.
Dayton, Montgomery County, Ohio

<u>Chemical</u>	<u># Containers</u>	<u>Container Volume</u>
Building 1		
Sulfuric Acid	8	55 gallon
Sodium Hydroxide	16	55 gallon
Sodium Hypochlorite	12	55 gallon
Nitric Acid	2	55 gallon
Hydrochloric Acid	20	55 gallon
Zincrolyte	1	55 gallon
SoakClean	1	55 gallon
Enthobrite	5	55 gallon
Enthobrite (Fiber Drums)	2	55 gallon
Building 1 Water Treatment Area		
Sodium Hydroxide	4	55 gallon
Sodium Hypochlorite	2	55 gallon
Sulfuric Acid	4	55 gallon
Building 2		
Sodium Cyanide	2	20 gallon
Sodium Cyanide	1	30 gallon
Zinc Cyanide	2	20 gallon
Zinc Cyanide	1	30 gallon
Kerosene	10	55 gallon
Amphoteric 2150RR Cleaning Compounds	33	55 gallon
Building 2 Restroom		
Lacquer Rinse	7	55 gallon

Chemical Inventory October 11, 1996
Dayton Electroplate, Inc.
Dayton, Montgomery County, Ohio

<u>Chemical</u>	<u># Containers</u>	<u>Container Volume</u>
Building 2 Chemical Storage Area		
Chromic Acid	3	10 gallon
Udyfin 934 Oil	4	5 gallon
Enthox 970B	2	5 gallon
Enthobrite Extender 253	4	5 gallon
Zincrolyte NC2 - 1007CC	7	5 gallon
Zincrolyte NC2 - 100FE	5	5 gallon
Enthobrite CN2 Clarifier	3	5 gallon
Phosphoric Acid	1	5 gallon
Phosphoric Acid	2	1 gallon
Isopropanol	4	1 gallon
Entek 45	5	5 gallon
Zinc Dust	1	5 gallon
Triethanolamine	2	5 gallon
Enthobrite WAZ	2	5 gallon
Parchrome LiquiBlue Dye	2	5 gallon
Drying Aid	1	5 gallon
Aqua Ammonia	1	5 gallon
Entek NR-37	2	5 gallon
Potassium Permanganate	1	10 gallon
Unknown	1	30 gallon
Enthox 991A	1	55 gallon
106 Soak Clean	3	55 gallon
Zincrolyte - 100D	5	20 gallon
Autophoretic 703 Replenisher	1	Unknown
Autophoretic 703 Neutralizer	1	Unknown
Autophoretic 703 Starter	1	Unknown
Autophoretic 703 React Rinse	2	Unknown
Enthox 9132	4	5 gallon
Enthox 6A	3	10 gallon
Alumon Special	1	5 gallon
Wetting Agent	2	5 gallon
UdyStrip	1	5 gallon
Barium Carbonate	1/2 pallet	80 pound bags
Zincrolyte NC2 - 100B	2	55 gallon
Boric Acid	1/2 pallet	80 pound bags
Endox-114	1	55 gallon
Enthox 5745	1	55 gallon
Metal Balls	3	10 gallon
Argon	1	cylinder
Oxygen	1	cylinder
Acetylene	1	cylinder

APPENDIX C
ANALYTICAL DATA PACKAGE



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: November 5, 1996

TO: Karen Waldron, START Project Manager, E & E,
Cleveland, Ohio

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, Assistant START Program Manager,
E & E, Chicago, Illinois

SUBJECT: Inorganic Data Quality Review for Nickel, Chromium,
and Zinc, Dayton Electroplating, Dayton, Montgomery
County, Ohio

REFERENCE: Project TDD S05-9609-018 Analytical TDD S05-9610-805
Project PAN 6P1801SIXX Analytical PAN 6CAE01TA

The data quality assurance (QA) review of one solid sample collected from the Dayton Electroplating site is complete. The sample was collected on October 11, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The sample was submitted to BEC Laboratories, Inc., Toledo, Ohio. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Method 6010.

Sample Identification

START
Identification No.

V07

Laboratory
Identification No.

96T14939

Data Qualifications:

I. Sample Holding Time: Acceptable

The sample was collected on October 11, 1996, and analyzed on October 16, 1996. This is within the 6-month holding time limit.

II. Calibration:

- Initial Calibration: Acceptable

Recoveries for the initial calibration verification were within 90 to 110%, as required.

- Continuing Calibration: Acceptable

All analytes included in the continuing calibration verification standard were within 90 to 110%, as required.

III. Blanks: Acceptable

Calibration and preparation blanks were analyzed with each analytical batch. No target analytes were detected in the blank.

IV. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) Data Validation Procedures, Section 3.0, Metallic Inorganic Parameters. Based upon the information provided, the data are acceptable for use.



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: November 5, 1996

TO: Karen Waldron, START Project Manager, E & E,
Cleveland, Ohio

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, Assistant START Program Manager,
E & E, Chicago, Illinois

SUBJECT: Generic Data Quality Review for Sulfate and Chloride,
Dayton Electroplating, Dayton, Montgomery County,
Ohio

REFERENCE: Project TDD S05-9609-018 Analytical TDD S05-9610-805
Project PAN 6P1801SIXX Analytical PAN 6CAE01TA

The data quality assurance (QA) review of three drum liquid samples collected from the Dayton Electroplating site is complete. The samples were collected on October 11, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to BEC Laboratories, Inc., Toledo, Ohio. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Methods 9038 and 9252, for sulfate and chloride, respectively.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
D01	96T14933
D02	96T14934
D04	96T14936

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on October 11, 1996, and analyzed between October 15 and 17, 1996. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) does not specify holding time criteria for these parameters.

II. Calibration: Acceptable

Method spikes and duplicates analyzed for each parameter were within acceptable limits.

III. Blanks: Acceptable

Method blanks for both analyses were analyzed and found acceptable.

IV. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the OSWER Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: November 5, 1996

TO: Karen Waldron, START Project Manager, E & E,
Cleveland, Ohio

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, Assistant START Program Manager,
E & E, Chicago, Illinois

SUBJECT: Generic Data Quality Review for Total and Reactive
Cyanide, Dayton Electroplating, Dayton, Montgomery
County, Ohio

REFERENCE: Project TDD S05-9609-018 Analytical TDD S05-9610-805
Project PAN 6P1801SIXX Analytical PAN 6CAE01TA

The data quality assurance (QA) review of one solid and one liquid sample collected from the Dayton Electroplating site is complete. The samples were collected on October 11, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to BEC Laboratories, Inc., Toledo, Ohio. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Methods 9010 and 7.3.3.2.

Sample Identification

START
Identification No.

Laboratory
Identification No.

V08
D11

96T14940
96T14943

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on October 11, 1996, and analyzed on October 15 and 16, 1996. This is within the 14-day holding time limit.

II. Calibration: Acceptable

The recovery of the total cyanide method spike was slightly below the 85 to 115% limit. Due to the high level of cyanide detected in the samples, qualification was not judged to be necessary. The recovery of the reactive cyanide method spike was low and is typical of this analysis.

III. Blanks: Acceptable

Blanks were analyzed with each analyses and were free of analytes.

IV. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.



ecology and environment, inc.

International Specialists in the Environment

33 North Dearborn Street
Chicago, Illinois 60602
Tel. 312/578-9243, Fax: 312/578-9345

M E M O R A N D U M

DATE: November 5, 1996

TO: Karen Waldron, START Project Manager, E & E,
Cleveland, Ohio

FROM: David Hendren, START Analytical Services Manager,
E & E, Chicago, Illinois

THROUGH: Mary Jane Ripp, Assistant START Program Manager,
E & E, Chicago, Illinois

SUBJECT: Generic Data Quality Review for pH and Flash Point,
Dayton Electroplating, Dayton, Montgomery County,
Ohio

REFERENCE: Project TDD S05-9609-018 Analytical TDD S05-9610-805
Project PAN 6P1801SIXX Analytical PAN 6CAE01TA

The data quality assurance (QA) review of nine waste liquid samples collected from the Dayton Electroplating site is complete. The samples were collected on October 11, 1996, by the Superfund Technical Assessment and Response Team (START) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to BEC Laboratories, Inc., Toledo, Ohio. The laboratory analyses were performed according to the United States Environmental Protection Agency (U.S. EPA) Solid Waste 846 Methods 9040 and 1020.

Sample Identification

<u>START</u> <u>Identification No.</u>	<u>Laboratory</u> <u>Identification No.</u>
D01	96T14933
D02	96T14934
D03	96T14935
D04	96T14936
V05	96T14937
V06	96T14938
V09	96T14941
D10	96T14942
V12	96T14944

Dayton Electroplating
Project TDD S05-9609-018
Analytical TDD S05-9610-805
pH, Flash Point
Page 2

Data Qualifications:

I. Sample Holding Time: Acceptable

The samples were collected on October 11, 1996, and were analyzed on October 15, 1996. The Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990) does not specify holding times for these criteria.

II. Calibration: Acceptable

The pH meter was calibrated using three buffered solutions and the flash point was checked by analysis of p-xylene. Both analyses were found to be acceptable.

III. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the OSWER Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.

Ecology and Environment, Inc.
6777 Engle Road

Cleveland, OH 44130
ATTN: Dave Hendren



HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	AcTL4931
p.o. no.	

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - liquid - Drum 01 - Room 1 -
Station # D01 - 10/11/96 @ 1000

RESULTS:

ANALYTE	METHOD	RESULT
Sulfate	SW-846, 9038	820,000 mg/Kg
pH in 10% S.U.	EPA-600, 150.1	less than 1 *

* Due to the characteristics of the sample it was necessary to add water for pH determination.

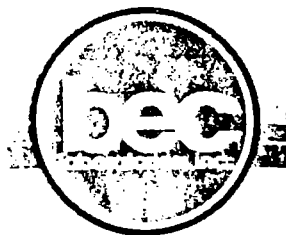
date completed:

techn

approved by:

Ecology and Environment, Inc.
6777 Engle Road

Cleveland, OH 44137
ATTN: Dave Hendren



HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.
1071496
p.o. no.

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-605 - grab - liquid - Drum 02 - Room 1 -
Station # D02 - 10/11/96 @ 1010

RESULTS:

<u>ANALYTE</u>	<u>METHOD</u>	<u>RESULT</u>
pH in 10% S.U.	SW-846, 9040	less than 1
Total Chloride	SW-846, 9252	380,000 mg/L

* Due to sample characteristics it was necessary to add water for the pH determination.

date completed:

tech:

approved by:

Ecology and Environment, Inc.
6777 Engle Road



Cleveland, OH 44130
ATTN: Dave Hendren

HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	96T14915
p.o. no.	

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - liquid - Drum 03 - Room 1 -
Station # D03 - 10/11/96 @ 1012

RESULTS:

ANALYTE	METHOD	RESULT
pH in 10% S.U.	SW-846, 9040A	greater than 13 *

* Due to the characteristics of the sample it was necessary to add water for the pH determination.

site completed

tech

approved by

A handwritten signature in black ink, appearing to read "J. Nuff", is written over a horizontal line.

Ecology and Environment, Inc.
6777 Engle Road



Cleveland, OH 44130
ATTN: Dave Hendren

HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	96T14936
p.o. no.	

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - liquid - Drum 04 - Room 1 -
Station # D04 - 10/11/96 @ 1015

RESULTS:

<u>ANALYTE</u>	<u>METHOD</u>	<u>RESULT</u>
pH in 10% S.U.	EPA-600, 150.1	11.67 *
Total Chloride	SW-846, 9252	170,000 mg/L

* Due to sample characteristics it was necessary to add water for the pH determination.

site completed

tech

approved by:

A handwritten signature in black ink, appearing to read "J. E. Ruff", is written over the "approved by:" label and extends into the adjacent space.

Ecology and Environment, Inc.
6777 Engle Road



Cleveland, OH 44130
ATTN: Dave Hendren

HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.
96T14957
p.o. no.

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - liquid - Vat 05 - Room 1 -
Station # V05 - 10/11/96 @ 1018

RESULTS:

ANALYTE	METHOD	RESULT
pH in 10% S.U.	SW-846, 9040A	12.67 *

* Due to the characteristics of the sample it was necessary to add water for the pH determination.

date completed

10-15-96

tech:

TSY

approved by:

Ecology and Environment, Inc.
6777 Engle Road

Cleveland, OH 44130
ATTN: Dave Hendren



HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	96T14938
p.o. no.	

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - liquid - Vat 06 - Room i -
Station # V06 - 10/11/96 @ 1021

RESULTS:

<u>ANALYTE</u>	<u>METHOD</u>	<u>RESULT</u>
pH in 10% S.U.	SW-846, 9040A	less than 1 *

* Due to the characteristics of the sample it was necessary to add water for the pH determination.

date completed

techn

approved by:

A handwritten signature in black ink, appearing to read "J. E. Ruff", is written over a horizontal line.

Ecology and Environment, Inc.
6777 Engle Road

Cleveland, OH 44130
ATTN: Dave Hendren



HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	96T14930
p.o. no.	

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - solid - Vat 07 - Room 1 -
Station # V07 - 10/11/96 @ 1025

RESULTS:

ANALYTE	METHOD	RESULT
Total Chromium	SW-846, 6010A	49 mg/Kg
Total Nickel	SW-846, 6010A	43 mg/Kg
Total Zinc	SW-846, 6010A	10,000 mg/Kg

date completed:

10-17-96

tech:

SSS BNS

approved by:

Ecology and Environment, Inc.
6777 Engle Road

Cleveland, OH 44130
ATTN: Dave Hendren



HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	46714940
p.o. no.	

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-205 - grab - liquid - Vat 08 - Room 2 -
Station # V08 - 10/11/96 @ 1115

RESULTS:

<u>ANALYTE</u>	<u>METHOD</u>	<u>RESULT</u>
Total Cyanide	SW-846, 9010	6500 mg/Kg
Reactive Cyanide	SW-846, 7.3.3.2	less than 0.1 mg/Kg

date completed:
10/11/96

tech:
J. H. HARRIS

approved by:

A handwritten signature in black ink, appearing to read "J. H. Harris", is written over a horizontal line.

Ecology and Environment, Inc.
6777 Engle Road

Cleveland, OH 44130
ATTN: Dave Hendren



HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	96T14241
p.o. no.	

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - liquid - Vat 09 - Room 2 -
Station # V09 - 10/11/96 @ 1120

RESULTS:

<u>ANALYTE</u>	<u>METHOD</u>	<u>RESULT</u>
pH in 10% S.U.	SW-846, 9040A	less than 1 *

* Due to the characteristics of the sample it was necessary to add water for the pH determination.

Site completed

tech

approved by

Ecology and Environment, Inc.
6777 Engle Road

Cleveland, OH 44130
ATTN: Dave Hendren



HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	96T14942
p.o. no.	

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - liquid - Drum 10 - Room 3 -
Station # D10 - 10/11/96 @ 1130

RESULTS:

<u>ANALYTE</u>	<u>METHOD</u>	<u>RESULT</u>
Flash Point - SETAFLASH	SW-846, 1020	less than 74°F

date completed:

10/15/96

tech:

DM

approved by:

A handwritten signature in black ink, appearing to read "J. E. Huff", is written over a horizontal line.

Ecology and Environment, Inc.
6777 Engle Road



Cleveland OH 44130
ATTN: Dave Hendren

HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.
9671-0411
p.o. no.

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - solid - Drum 11 - Room 3 -
Station # D11 - 10/11/96 @ 1145

RESULTS:

ANALYTE	METHOD	RESULT
Total Cyanide	SW-846, 9010	53.000 mg/Kg
Reactive Cyanide	SW-846, 7.3.3.2	470 mg/Kg

date completed 10/12/96	tech J. Nuff	approved by <i>J. Nuff</i>
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All reports are submitted as confidential communications. Authorization for publication in whole or in part is reserved pending our written approval. All data and information are confidential.

Ecology and Environment, Inc.
6777 Engle Road

Cleveland, OH 44130
ATTN: Dave Hendren



HEADQUARTERS/LABORATORY
705 FRONT STREET
TOLEDO, OHIO 43605
PHONE: (419) 693-5307
FAX: (419) 691-0418

ENVIRONMENTAL LABORATORY
1632 ENTERPRISE PARKWAY
TWINSBURG, OHIO 44087
PHONE: (216) 425-8200
FAX: (216) 425-1349

lab no.	96T14944
p.o. no.	

rev: 0

SAMPLE

DESCRIPTION: Project # KJ5100 - S05-9610-805 - grab - liquid - Vat 12 - Room 3 -
Station # V12 - 10/11/96 @ 1200

RESULTS:

<u>ANALYTE</u>	<u>METHOD</u>	<u>RESULT</u>
pH in 10% S.U.	SW-846, 9040A	less than 1 *

* Due to the characteristics of the sample it was necessary to add water for the pH determination.

date completed:
10-15-96

tech:
CEV

approved by:

A handwritten signature in black ink, appearing to read "J. Ruff", is written over a horizontal line.